

CLAIMS

1 - VHF adapter for cable network, of the type comprising a first down conversion chain and a second up conversion chain, characterized in that the first chain comprises a first mixer (406) followed by a second mixer (414) and the second chain a third mixer (416) followed by a fourth (412) and by a fifth mixer (408), and in that all the local frequencies necessary for these five mixers are obtained from a very stable single reference oscillator (403).

2 - Adapter according to Claim 1, characterized in that the single reference oscillator (403) drives a harmonics generator (404) inserted into a phase loop dielectric resonator oscillator (PLDRO) using an SPD system to obtain on the one hand after multiplication by two (405) a first local frequency energizing the first (406) and fifth (408) mixers, and on the other hand with a first very narrow filter (423) a second local frequency for energizing the second (414) and the third mixers (416).

3 - Adapter according to Claim 2, characterized in that the single reference oscillator (403) furthermore drives an agile frequency synthesizer (410) controlled by a bus (411) so as to obtain variable frequencies for energizing the fourth mixer (412); and in that a second very narrow filter (417) is placed between the output of the third mixer (416) and an input of the fourth mixer (412) so that, the intermediate frequency for energizing the third mixer (416) being a very low frequency pure frequency, the signal delivered by this third mixer (416) can be filtered by the second very narrow filter which

energetically rejects the second local frequency and the image-frequency signal.

4 - Adapter according to any one of Claims 1 to 3, characterized in that the first and second very narrow filters are surface wave filters.

5 - Adapter according to any one of Claims 1 to 4, characterized in that the frequency plan of the various mixers (406, 408, 412, 414, 416) makes it possible to obtain by simple switching of the frequencies of the harmonics generator (404) and of the agile synthesizer and by a single change of the surface wave filters (423, 417), four configurations for two distinct operators (A, B) compatible with a cable network.

6 - Radio-frequency transmission system comprising at least one base station (ST) and at least one subscriber device, the base station using a single oscillator to perform a down conversion of signals to the frequency band transmitted by radio and possibly an up conversion of signals from the frequency band received by radio, the subscriber device comprises an interior unit (3) and an exterior unit (1) which are linked by a cable (2), characterized in that the exterior unit (1) comprises a VHF adapter according to one of Claims 1 to 5.